DOCUMENT RESUME

ED 456 913 PS 029 756

AUTHOR Munoz, Marco A.
TITLE The Critical Years of Education for At-Risk Students: The Impact of an Early Childhood Program on Student Learning.
INSTITUTION Jefferson County Public Schools, Louisville, KY.
PUB DATE 2001-04-20
NOTE 27p.
PUB TYPE Reports - Evaluative (142)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; Comparative Analysis; *Early Intervention; *High Risk Students; Longitudinal Studies; Mathematics Achievement; *Outcomes of Education; Performance Factors; *Preschool Children; *Preschool Education; Program Effectiveness; Program Evaluation; Reading Achievement
IDENTIFIERS Kentucky

ABSTRACT

The Jump Start program is a preschool program serving about 4,000 four-year-olds in a partnership including Head Start, Even Start, a tuition-based program, and the Kentucky preschool program mandated by the Kentucky Educational Reform Act (KERA). This study compared the family of Jump Start programs and a comparison group on student academic performance. Participating in the study was one cohort of students from the 1996-1997 school year who participated in free lunch programs. Academic performance was assessed with the Stanford Diagnostic Reading and Mathematics Test total battery score. The Early Childhood Student Profile provided information on student cognitive/language/literacy skills, mathematics and logic skills, and language arts. The findings showed that the Jump Start program's KERA preschool and Head Start showed higher mean scores than the comparison group in both reading and mathematics. KERA's preschool had the highest scores for both reading and mathematics. An attendance analysis showed that the Jump Start class of 1996-1997 increased their attendance pattern from preschool to grade 3. Also, participants in the Jump Start programs made significant gains in the various dimensions measured by the Early Childhood Student Profile. (Contains 23 references.) (KB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 456 913

RUNNING HEAD: The Critical Years of Education

The Critical Years of Education for At-Risk Students: The Impact of an Early Childhood Program on Student Learning

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Marco A. Munoz

Jefferson County Public Schools (JCPS)

VanHoose Education Center

Accountability, Research, and Planning

3332 Newburg Road

Louisville, KY 40218

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Marco A. Munoz

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

PS 029756

BEST COPY AVAILABLE

Abstract

The Jump Start Program is a preschool program with the objective of providing a developmentally appropriate education for eligible children. This research study was conducted to compare the family of JUMP Start programs and the comparison group on academic performance. Only free lunch status students participating in the various JUMP Start program were compared to the control group. The findings showed that the JUMP Start programs KERA preschool and Head Start showed higher mean scores that the comparison group in both reading and mathematics. KERA's preschool had the highest scores for both reading and mathematics. This study support the concept that investing in high quality early childhood education offers academic benefits, at least when the treatment group was compared to a control group at the beginning of second grade. Implications for policy and future research are discussed.

Keywords: Early Childhood Education, K-12, Student Achievement

The Critical Years of Education for At-Risk Students: The Impact of an Early Childhood Program on Student Learning

Socio-economic conditions of the students continue to be a major determinant of school performance in school systems across the nation, especially in high poverty urban school districts (Lippman, Burns, and McArthur, 1996; Roeder, 1999; Munoz & Dossett, 2001). Children in poverty face complex factors that have the general effect of severely restraining the students potential to learn (Cardenas & McCarty, 1985; Legters & Slavin, 1992). Significant policy changes have been recommended by sociologist and political scientists in education to face this critical issue. Interventions attempting to provide equal opportunities in education and addressing social barriers toward successful learning constitute a research topic that occupies center stage in the educational policy arena.

The issue is that most educationally advantaged students receive several times more education-relevant resources than most educationally disadvantaged students: most of this resource advantage is due to variations in family resources rather than school resources (Miller, 1995, p. 94). The author discusses five categories of capital, namely human capital, social capital, health capital, financial capital, and polity capital, which are necessary for a child to be academically successful in the education arena. For instance, in terms of social capital, the child benefits when adults, with whom the children have a close relationship, take a strong interest in their education. In this sense, the school resources are just one side of the coin: the family resources or lack of are the other side of the coin.

According to Murphy (1991), efforts should be made to expand the "school community," to unite parents, professional educators, businesses, universities,

foundations, and the general populace into a collective force dedicated to the improvement of schooling for all children. For example, policies and programs cannot concentrate solely on the child, but most simultaneously address the needs of two generations –the parent and the child—for they are interdependent.

Brady (1994) explains a three-tiered classification of risk factors: (1) established diagnosis, for those children who have a diagnosed medical condition; (2) biological risk, for those children who are at risk of developmental delay due to factors associated with the pregnancy, birth events, or postnatal complications; and, (3) environmentally at risk, for those children facing an array of environmentally based factors that will adversely affect the child development.

From a federal perspective, Head Start is a program designed to serve many disadvantage minority youngsters. Head Start programs across the country vary considerably in their components and are often less oriented to cognitive development. Many are half-day programs with less well educated staff and less favorable teacher-child ratios than those in other resource intensive experiments as Perry School or the Abecedarian Project (RAND, 1998). Nevertheless, in comparison to other youngsters, children who attend Head Start programs are more likely to attend schools of lower quality as measured as such things as the rigor of their academic programs, their safety, and their overall social and academic climate (Lee & Loeb, 1995). The academic have been found to fade away during the first few years of school and the explanation is because Head Start students go to not well resourced schools, at least relative to the needs of their students.

On March 29, 1990, the Kentucky General Assembly passed Kentucky Educational Reform Act (KERA), which mandated a complete restructuring of the Kentucky public elementary and secondary system. In this sense, Kentucky's children and schools are faced with a dilemma: on the one hand, they are the focus of one of most massive education reform efforts in the nation and on the other hand, they are faced with a wide variety of social, familial, and personal obstacles. As part of the educational reform, the state of Kentucky has implemented programs that address the social needs of the most disadvantage schools (Logan, 1996). KERA addresses the dilemma by providing for KERA pre-school program to assist at-risk children attain the challenging goals of the education reform. In the school district under investigation, the Jump Start program has been designed to address the critical early years of education for needy students while addressing variables that might affect learning. The Jump Start Program is a preschool program with the objective of providing a developmentally appropriate education for eligible children.

In conclusion, the literature review shows that the goal of educational equity and excellence might be a very elusive issue, especially for schools with high number of students characterized as "at-promise" (Slavin, 1998) or "at-risk" in the old-fashion terminology. This is a relevant topic in the educational arena given the conceptualization of equity as student outcomes. The purpose of this study was to examine the impact of an early childhood program on student achievement. The early childhood program was studied to answer the following research question: What is the impact of the program on students' non-cognitive and cognitive measures and what are the trends over time?

Method

Participants

The analysis was conducted on the student population served by JUMP Start. This early childhood program serves about 4,000 four-year olds in a partnership that includes Head Start, Even Start, the tution-based program, and KERA's Preschool Program. The primary data sources for this investigation were the 1996-1997 to 1999-2000 county school profiles documents. The school district has developed in the last decade a strong management information system that collects socio-demographic, academic, and non-academic information. Table 1 displays descriptive statistics for the participating and control students.

Instrumentation

The independent or grouping variable was the Jump Start programs (i.e., federal and state). A cohort of students from the 1996-1997 school year was followed to compare their performance with a group of students who did not participated in the JUMP Start project. In this study, the Stanford Diagnostic Reading and Mathematics Test (SDRT/SDMT) total battery was utilized as dependent variable. The comparison was made at the beginning of the second grade during the school year 2000-2001. The SDRT/SDMT is a countywide assessment instrument for measuring students' learning in reading and mathematics (Kramer, Conoley, & Murphy, 1992). SDRT/SDMT is a nationally standardized test administered to all second grade students. Scores are reported in various ways, including Normal Curve Equivalents (NCE). A NCE ranges from 1 to 99 with an average of 50. The SDRT/SDMT is a norm-referenced test designed to measure learning in the basic skills and commonly found in state and school district curricula (Krammer, Conoley, & Murphy, 1992).

In this study, students were tested two times during the year (i.e., Fall and Spring) using an instrument entitled "The Early Childhood Student Profile." The instrument had a strong validity and was based on the direct input from experienced teachers across the entire district. A reliability analysis was conducted to assess the different dimensions of the instrument, including (a) cognitive/language/literacy skills, (b) mathematics and logic skills, and (c) language arts. A reliability analysis was conducted for each dimension that integrates the Early Childhood Student Profile to check the consistency of the instrument to measure the constructs under study. The results, as displayed on Appendix A, show that all Cronbach's alpha scores were above the minimal accepted number in social

science research (all three scales were above the .90). A correlation analysis was conducted to assess the Early Childhood Student Profile instrument relationship with the Stanford Diagnostic Test scores both in reading and mathematics. The evaluator found a moderate positive correlation between the instrument for the early childhood intervention and the Stanford Diagnostic Test scores. The results of the correlation analysis conducted at the .05 alpha level are shown on Table 6 of this study.

Design and Procedures

This study was a typical case of secondary analysis. The research design was quantitative in nature, specifically comparative (Gall, Borg, and Gall, 1996). In circumstances where participants cannot be randomly assigned to program and control groups, the use of appropriate non-randomized comparison group is recommended in order to more accurately assess the net effects of the independent variables under study (Cook & Campbell, 1979). The between-group design is the recommended procedure when the researcher is interested in comparing groups (Stevens, 1996).

Rossi, Freeman, and Lipsey (1999) discuss methods of creating non-equivalent control groups for comparison to program groups. All data was entered and analyzed using the Statistical Package for the Social Sciences (SPSS) version 10.0.5.

Results

The comparison sample had lower scores than the participating students of the JUMP Start' tuition-based program in both reading and mathematics. The JUMP Start tuition-based students had a mean of 51.6 in reading and a mean of 49.7 in mathematics while the comparison students had a mean of 45.2 in reading and a mean of 43.8 in mathematics. Nevertheless, since Head Start and KERA's Preschool Program faces the challenge of poverty children, the comparison group outperformed both JUMP Start programs in reading and mathematics. In addition, the comparison between the federally funded initiative (i.e., Head Start) and the state funded initiative (i.e., KERA's Preschool program) showed that the later outperformed the first in reading ($\underline{M}$ = 37.9 and $\underline{M}$ = 35.0, respectively) and mathematics ($\underline{M}$ = 38.4 and $\underline{M}$ = 33.9). Table 1 presents the demographic information about the students and Table 2 displays the results of this analysis using academic measures in reading and mathematics.

A follow-up analysis was conducted to compare what might be considered a more valid assessment of the family of JUMP Start programs and the comparison group academic performance. In this instance, only free lunch status students participating in the various JUMP Start program were compared to the control group. The findings showed that the JUMP Start programs KERA preschool and Head Start showed higher mean scores that the comparison group in both reading and mathematics. KERA's preschool had the highest scores for both reading and mathematics. No results were obtained for the JUMP Start tuition-based program since the sample size of participants on free lunch was minimal ($\underline{n}$ = 4). Table 3 displays this very significant result of this study that is comparing students with similar socio-economic status.

The non-academic measure used in this study was attendance rate. A cohort of students from the 1996-1997 school year was followed to check their attendance while in elementary school. The comparison was made at the beginning of the second grade during the school year 2000-2001. The attendance analysis showed that the JUMP Start class of 1996-1997 increased their attendance pattern across all the years of this grant, that is, from preschool years to grade 3. The 1999-2000 JUMP Start class also showed an increased percentage of attendance when the group moved to the critical Kindergarten year (i.e., 92.7 to 94.2). Table 4 displays the results of the attendance analysis of the participating students of this program related to early childhood education and development.

The participants of this program are showing significant gains in the various dimensions measured by the Early Childhood Student Profile, namely Cognitive, Language/Literacy Skills, Mathematics and Logic Skills, and Language Arts. These measures represent the effectiveness in meeting the purposes and a clear effect on participants being served by this program. Table 5 presents the information concerning the gains for the 1999-2000 school year.

Discussion

The overall objective of this longitudinal study was to provide information on the ways children are prepared to school and how early childhood programs affect the lives of the children who attend them. A cohort design was used to assess the aforementioned general objective. Children were followed since they started participating in the early childhood program and followed through their elementary school years (1996/1997-1999-2000). The specific objective was to have a deeper understanding of the relationship between pre-Kindergarten experience and their later school performance. Growth was measured in terms of cognitive and non-cognitive domains.

A systemic data collection system was developed by the school district. It involved testing the students two times during the year (i.e., Fall and Spring) using an instrument entitled "The Early Childhood Student Profile." The instrument had a strong validity and was based on the direct input from experienced teachers across the entire district. A reliability analysis was conducted to assess the different dimensions of the instrument, including (a) cognitive/language/literacy skills, (b) mathematics and logic skills, and (c) language arts. All scales were above the recommended reliability level by testing and measurement textbooks (i.e., Coefficient alpha above .90).

In addition to the Early Childhood Student Profile, data collection included the use of other academic measures such as the Stanford Diagnostic Test and other non-academic measures such as attendance rates. Attention was given to data collection about parents of the children involved in the JUMP Start program. For instance, an annual survey measured their satisfaction with the program, their perceptions about the quality of the program, and the level of participation on school-related activities.

The sample size across all years was 11,523 students. It was distributed in the following manner: (a) 2,837 for the 1996-1997 School Year; (b) 3,029 for the 1997-1998 School Year; (c) 2,819 for the 1998-1999 School Year; and, (d) 2,838 for the 1999-2000 School Year. All these students were tested using the Early Childhood Student Profile.

The gains in cognitive/language/literacy skills were impressive after a comparison was made between the Fall and the Spring; the program participants showed a 27.6% mastery level. In the area of mathematics and logic skills, the students participating in the program obtained a 37.5% gain. In language arts, the students participating in this early childhood initiative had a 34.2% gain. Overall, a 32.7% of the students reached the level of mastery in all three critical areas (i.e., cognitive, mathematics, and language arts).

A detailed analysis was conducted to compare what might be considered a more valid assessment of the family of JUMP Start programs and the comparison group academic performance. In this instance, only free lunch status students participating in the various JUMP Start program were compared to the control group. The findings showed that the JUMP Start programs KERA preschool and Head Start showed higher mean scores that the comparison group in both reading and mathematics. KERA's preschool had the highest scores for both reading and mathematics.

In terms of non-cognitive measures such as attendance, the trend data showed that the participating students increased their overall attendance pattern across the years of this study. For instance, the class of 1996-1997 (i.e., base year sample) had an attendance rate of 92.4, 93.7, 94.5, 95.2, and 95.8 from pre-Kindergarten to Grade 3.

Limitations and Recommendations for Future Research

This study had several limitations that restrict the generalizability of the findings and may have an influence upon the analysis and the results. First, the population of this study was restricted to schools of a very particular county in the state of Kentucky. In this regard, the generalizability of findings have to be carefully assessed. Second, from a methodological perspective, the research design was not a true experimental design. In fact, no statistical control can provide an exact, equivalent group (Stevens, 1996).

Further research should continue to explore the effectiveness of social and school-based interventions with different methodological procedures such as Hierarchical Linear Models (HLM), by analyzing school, teacher, and student level variables simultaneously. Finally, other non-academic and academic measures need to be explored as dependent variables in future research.

Conclusion

The Kentucky KERA preschool program and the federal government's Head Start program participants performed at a higher level than the control group in this study. This study support the concept that investing in high quality early childhood education offers benefit, at least when the treatment group was compared to a control group at the beginning of second grade. The rationale is based on the clear importance of the early years for ultimate success in school.

References

Brady, A. E. (1994). Children at environmental risk and early intervention: A review of the literature and an exploration of state decision making. Washington, DC: The National Child Welfare Research Center.

Cardenas, J., & McCarty, J. F. (1985). Barriers to excellence: Our children at risk. Educational Leadership, 43, 5-8.

Cook, T. D., and Campbell, D. T. (1979). Quasi-experimentation: Design and analysis issues for field settings. Chicago: Rand-McNally.

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). Educational research: An introduction. White Plains, NY: Longman.

Kramer, J.J., Conoley, J.C., & Murphy, L.L. (1992). The eleventh mental measurements yearbook. Lincoln, NE: University of Nebraska

Lee, V. E., & Loeb, S. Where do Head Start attendees end up? One reason why preschool effects fade out. Educational Evaluation and Policy Analysis, 17, 62-82.

Legters, N. & Slavin, R. E. (1992). Elementary students at risk: A status report. NY: Carnegie Foundation.

Lippman, L., Burns, S., & McArthur, E. (1996). Urban Schools: The challenge of location and poverty. Washington DC: National Center for Educational Statistics. Report No. 96-864.

Logan, J. P. (1996). Family resource and youth services centers: Leadership for educational equity and equality for Kentucky's children. Kentucky Children's Right Journal, 4 (3), 10-18.

Miller, L. S. (1995). An American imperative: Accelerating minority educational achievement. New Haven, CT: Yale.

Munoz, M. A., & Dossett, D. (2001). Equity and excellence: The effect of school and sociodemographic variables on student achievement. Journal of School Leadership, 11, 120-134.

Murphy, J. (1991). Restructuring schools: Capturing and assessing the phenomena. NY: Teachers College.

Orfield, G. (1994). The growth of segregation in American schools: Changing patterns of segregation and poverty since 1968. Equity and Excellence in Education, 27, 5-8.

Pedhazur, E.J., & Schmelkin, L.P. (1991). Measurement, design, and analysis: An integrated approach. Hillsdale, NJ: Lawrence Erlbaum.

Pittman, K., & Wright, M. (1991). A rationale for enhancing the role of the non-school voluntary sector in youth development. New York: Carnegie Council on Adolescent Development.

RAND (1998). Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions. Santa Monica, CA: Author.

Roeder, P. W. (1999). Education reform and equitable excellence: the Kentucky experiment [On-line]. Available: RDSpub@aol.com

Rose vs Council for Better Education, Inc., 790 S.W. 2nd 186: KY: 1989.

Rossi, P. H., Freeman, H. E., & Lipsey, M. W. (1993). Evaluation: A systematic approach. Thousand Oaks, CA: Sage.

Slavin, R. (1990). Cooperative learning: Theory, research, and practice. Englewood Cliffs, NJ: Prentice Hall.

Slavin, R. E. (1998). Can education reduce social inequity? Educational Leadership, 55, 6-10.

Stevens, J, (1996). Applied multivariate statistics for the social sciences. Mahwah, NJ: Lawrence Erlbaum Associates.

Swick, K. J., & Graves, S. B. (1993). Empowering at-risk families during the early childhood years. Washington, DC: NEA Professional Library.

Table 1

Socio-demographic Information of Study Participants for Comparing the JUMP Start Family of Programs with a Control Group (N = 5,901)

Group	Race	Gender	Lunch Status
Control Group (n = 3,835)	23% Black 77% Other	50% Female 50% Male	41% Free/Reduced 59% Pay
Tuition-based (n = 100)	12% Black 88% Other	42% Female 58% Male	7% Free/Reduced 93% Pay
Head Start (n = 972)	73% Black 27% Other	51% Female 49% Male	89% Free/Reduced 11% Pay
KERA Preschool (n = 994)	44% Black 56% Other	49% Female 51% Male	76% Free/Reduced 24% Pay

Note:

The highest percentage of free/reduced lunch students are participating in the Head Start program; following Head Start, in terms of poverty levels measured as participation in free/reduced lunch status, is KERA's preschool program. In general, all programs served a gender-balanced group of students.

Table 2

Stanford Reading and Mathematics Diagnostic Test scores with the Purpose of Comparing the JUMP Start Family of Programs with a Control Group (N = 5,901)

Group	Reading Mean	SD	Mathematics Mean	SD
Control Group	45.20	21.2	43.77	22.7
Tuition-based	51.56	19.4	49.68	21.6
Head Start	35.03	18.2	33.91	21.2
KERA Preschool	37.88	18.6	38.41	21.2

Table 3

Comparison of the JUMP Start Program Free Lunch Students with a Control Group Using the Stanford Reading and Mathematics Diagnostic Test scores (N = 2,683)

Group	Reading Mean	SD	Mathematics Mean	SD
Control Group (n = 1,277)	32.71	19.1	31.82	21.3
Head Start (n = 780)	33.27	17.6	32.18	21.1
KERA Preschool (n = 626)	34.8	17.9	35.3	20.5

Table 4

Attendance by Grade by JUMP Start Class

Jump Start Class	PreK	Kindergarten	1	2	3
1996-97	92.4	93.7	94.5	95.2	95.8
1997-98	92.9	93.7	96.1	95.6	
1998-99	92.0	94.4	95.0		
1999-00	92.7	94.2			

Blue = 1996-97 school year attendance
Red = 1997-98 school year attendance
Green = 1998-99 school year attendance
Black = 1999-00 school year attendance
Pink = 2000-01 school year attendance

Table 5

Gains of the Students Participating in the JUMP Start Program as Measured by the Early Childhood Student Profile (N = 2,838)

	1999-2000		
	Fall	Spring	Gain
Cognitive/Language/Literacy Skills	46.0%	73.6%	27.6%
Mathematics and Logic Skills	25.2%	62.8%	37.5%
Language Arts	34.8%	69.0%	34.2%
Total	36.1%	68.8%	32.7%

Table 6

Correlation Between the Early Childhood Student Profile and the Stanford Diagnostic Test (N = 1,980)

Variables	Cog	Math	Lang.Arts	Stanf.Reading	Stanf.Math
Cognitive	1.00				
Math	.68	1.00			
Language Arts	.72	.78	1.00		
Stanford Reading	.32	.37	.36	1.00	
Stanford Math	.28	.38	.34	.62	1.00

Appendix A
Reliability Analysis of Early Childhood Student Profile

Reliability Analysis:

Cognitive/Language/Literacy Skills

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Q1_SR_1	37.1704	31.2149	.5532	.3486	.9196
Q2_SR_1	37.0492	32.1829	.5388	.3708	.9207
Q3_SR_1	37.4328	29.0502	.6772	.5073	.9161
Q4_SR_1	37.7649	29.4292	.5491	.3457	.9217
Q5_SR_1	37.5139	28.7036	.6828	.5383	.9161
Q6_SR_1	37.1140	31.1058	.6334	.4775	.9179
Q7_SR_1	37.1543	30.6018	.6731	.5762	.9165
Q8_SR_1	37.1372	30.4622	.7184	.6721	.9155
Q9_SR_1	37.1514	30.3859	.7125	.6358	.9155
Q10_SR_1	37.2391	29.7613	.7119	.5322	.9149
Q11_SR_1	37.1144	31.4183	.5622	.3771	.9195
Q12_SR_1	37.4781	28.4554	.7476	.6315	.9135
Q13_SR_1	37.5702	28.6339	.6859	.5456	.9160
Q14_SR_1	37.4241	28.6185	.7293	.5886	.9142
Q15_SR_1	37.1363	31.1663	.5699	.4192	.9192

Reliability Coefficients 15 items

Alpha = .9223 Standardized item alpha = .9274

Reliability Analysis:

Mathematics and Logic Skills

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Q16_SR_1	27.4312	31.6909	.6855	.6290	.9323
Q17_SR_1	27.4585	31.4026	.6972	.6467	.9317
Q18_SR_1	27.4282	31.5502	.6869	.6436	.9321
Q19_SR_1	27.5123	30.6886	.7433	.6780	.9299
Q20_SR_1	27.7254	29.9633	.7245	.5617	.9304
Q21_SR_1	27.6580	30.3144	.7017	.5174	.9312
Q22_SR_1	27.7135	29.7653	.7637	.6186	.9289
Q23_SR_1	27.7290	29.9654	.7221	.5562	.9305
Q24_SR_1	27.6953	30.1111	.7189	.5542	.9306
Q25_SR_1	27.8548	29.0885	.7783	.8203	.9283
Q26_SR_1	27.8462	29.0984	.7807	.8213	.9282
Q27_SR_1	28.1644	30.2223	.6422	.4900	.9339

Reliability Coefficients 12 items

Alpha = .9361 Standardized item alpha = .9378

Reliability Analysis:

Language Arts

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Q28_SR_1	31.2135	28.9520	.6779	.4758	.9242
Q29_SR_1	31.4227	28.1610	.6925	.5138	.9239
Q30_SR_1	31.1019	29.9359	.6608	.5123	.9251
Q31_SR_1	31.0647	29.9630	.6898	.6013	.9245
Q32_SR_1	31.2166	28.6922	.7400	.5928	.9221
Q33_SR_1	31.2062	28.5253	.7644	.7209	.9212
Q34_SR_1	31.1649	28.8382	.7489	.7268	.9219
Q35_SR_1	31.0598	29.8734	.7026	.6100	.9241
Q36_SR_1	31.0881	29.7705	.6860	.5321	.9244
Q37_SR_1	31.4864	28.4165	.6545	.4616	.9254
Q38_SR_1	31.5877	28.6681	.6000	.3959	.9278
Q39_SR_1	31.4841	28.0112	.6988	.6062	.9237
Q40_SR_1	31.4654	28.0046	.6918	.5952	.9241

Reliability Coefficients 13 items

Alpha = .9295 Standardized item alpha = .9336